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OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/833,745

DATE: 07/26/2001

TIME: 09:45:06

Input Set : A:\78728106.app

Output Set: N:\CRF3\07262001\I833745.raw

P.5

ENTERED

3 <110> APPLICANT: ROBERTS, JOSEPH
4 SETHURAMAN, NATARAJAN
5 MACALLISTER, THOMAS
7 <120> TITLE OF INVENTION: CLONING, OVEREXPRESSION AND THERAPEUTIC USE OF
8 BIOACTIVE HISTIDINE AMMONIA LYASE
10 <130> FILE REFERENCE: 078728/0106
12 <140> CURRENT APPLICATION NUMBER: 09/833,745
13 <141> CURRENT FILING DATE: 2001-04-13
15 <150> PRIOR APPLICATION NUMBER: 60/197,770
16 <151> PRIOR FILING DATE: 2000-04-14
18 <160> NUMBER OF SEQ ID NOS: 66
20 <170> SOFTWARE: PatentIn Ver. 2.1
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 37
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial Sequence
27 <220> FEATURE:
28 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
29 polypeptide
31 <400> SEQUENCE: 1
32 Leu Asn Ala Gly Ile Thr Pro Val Val Arg Glu Tyr Gly Ser Leu Gly
33 1 5 10 15
35 Cys Ser Gly Asp Leu Ala Pro Leu Ser His Cys Ala Leu Val Leu Met
36 20 25 30
38 Gly Glu Gly Glu Ala
39 35
42 <210> SEQ ID NO: 2
43 <211> LENGTH: 40
44 <212> TYPE: PRT
45 <213> ORGANISM: Artificial Sequence
47 <220> FEATURE:
48 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
49 polypeptide
51 <400> SEQUENCE: 2
52 Gly Met Leu Asn Ala Gly Ile Thr Pro Val Val Arg Glu Tyr Gly Ser
53 1 5 10 15
55 Leu Gly Cys Ser Gly Asp Leu Ala Pro Leu Ser His Cys Ala Leu Val
56 20 25 30
58 Leu Met Gly Glu Gly Glu Ala Thr
59 35 40
62 <210> SEQ ID NO: 3
63 <211> LENGTH: 287
64 <212> TYPE: PRT
65 <213> ORGANISM: Artificial Sequence
67 <220> FEATURE:
68 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
69 polypeptide

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71 <400> SEQUENCE: 3

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72 Met Ala Ser Ala Pro Gln Ile Thr Leu Gly Leu Ser Gly Ala Thr Ala
73   1           5           10           15
75 Asp Asp Val Ile Ala Val Ala Arg His Glu Ala Arg Ile Ser Ile Ser
76           20           25           30
78 Pro Gln Val Leu Glu Glu Leu Ala Ser Val Arg Ala His Ile Asp Ala
79           35           40           45
81 Leu Ala Ser Ala Asp Thr Pro Val Tyr Gly Ile Ser Thr Gly Phe Gly
82           50           55           60
84 Ala Leu Ala Thr Arg His Ile Ala Pro Glu Asp Arg Ala Lys Leu Gln
85           65           70           75           80
87 Arg Ser Leu Ile Arg Ser His Ala Ala Gly Met Gly Glu Pro Val Glu
88           85           90           95
90 Arg Glu Val Val Arg Ala Leu Met Phe Leu Arg Ala Lys Thr Leu Ala
91           100          105          110
93 Ser Gly Arg Thr Gly Val Arg Pro Val Val Leu Glu Thr Met Val Gly
94           115          120          125
96 Met Leu Asn Ala Gly Ile Thr Pro Val Val Arg Glu Tyr Gly Ser Leu
97           130          135          140
99 Gly Cys Ser Gly Asp Leu Ala Pro Leu Ser His Cys Ala Leu Val Leu
100 145          150          155          160
102 Met Gly Glu Gly Glu Ala Thr Asp Ala His Gly Asp Ile Arg Pro Val
103           165          170          175
105 Pro Glu Leu Phe Ala Glu Ala Gly Leu Thr Pro Val Glu Leu Ala Glu
106           180          185          190
108 Lys Glu Gly Leu Ala Leu Val Asn Gly Thr Asp Gly Met Leu Gly Gln
109           195          200          205
111 Leu Ile Met Ala Leu Ala Asp Leu Asp Glu Leu Leu Asp Ile Ala Asp
112          210          215          220
114 Ala Thr Ala Ala Met Ser Val Glu Ala Gln Leu Gly Thr Asp Gln Val
115 225          230          235          240
117 Phe Arg Ala Glu Leu His Glu Pro Leu Arg Pro His Pro Gly Gln Gly
118           245          250          255
120 Arg Ser Ala Gln Asn Met Phe Ala Phe Leu Ala Asp Ser Pro Ile Val
121           260          265          270
123 Ala Ser His Arg Glu Gly Asp Gly Arg Val Gln Asp Ala Tyr Ser
124           275          280          285

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127 <210> SEQ ID NO: 4

128 <211> LENGTH: 405

129 <212> TYPE: PRT

130 <213> ORGANISM: Artificial Sequence

132 <220> FEATURE:

133 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic

134 polypeptide

136 <400> SEQUENCE: 4

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137 Met Ala Ser Ala Pro Gln Ile Thr Leu Gly Leu Ser Gly Ala Thr Ala
138   1           5           10           15
140 Asp Asp Val Ile Ala Val Ala Arg His Glu Ala Arg Ile Ser Ile Ser
141           20           25           30

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```

143 Pro Gln Val Leu Glu Glu Leu Ala Ser Val Arg Ala His Ile Asp Ala
144          35                      40                      45
146 Leu Ala Ser Ala Asp Thr Pro Val Tyr Gly Ile Ser Thr Gly Phe Gly
147          50                      55                      60
149 Ala Leu Ala Thr Arg His Ile Ala Pro Glu Asp Arg Ala Lys Leu Gln
150          65                      70                      75                      80
152 Arg Ser Leu Ile Arg Ser His Ala Ala Gly Met Gly Glu Pro Val Glu
153          85                      90                      95
155 Arg Glu Val Val Arg Ala Leu Met Phe Leu Arg Ala Lys Thr Leu Ala
156          100                     105                     110
158 Ser Gly Arg Thr Gly Val Arg Pro Val Val Leu Glu Thr Met Val Gly
159          115                     120                     125
161 Met Leu Asn Ala Gly Ile Thr Pro Val Val Arg Glu Tyr Gly Ser Leu
162          130                     135                     140
164 Gly Cys Ser Gly Asp Leu Ala Pro Leu Ser His Cys Ala Leu Val Leu
165          145                     150                     155                     160
167 Met Gly Glu Gly Glu Ala Thr Asp Ala His Gly Asp Ile Arg Pro Val
168          165                     170                     175
170 Pro Glu Leu Phe Ala Glu Ala Gly Leu Thr Pro Val Glu Leu Ala Glu
171          180                     185                     190
173 Lys Glu Gly Leu Ala Leu Val Asn Gly Thr Asp Gly Met Leu Gly Gln
174          195                     200                     205
176 Leu Ile Met Ala Leu Ala Asp Leu Asp Glu Leu Leu Asp Ile Ala Asp
177          210                     215                     220
179 Ala Thr Ala Ala Met Ser Val Glu Ala Gln Leu Gly Thr Asp Gln Val
180          225                     230                     235                     240
182 Phe Arg Ala Glu Leu His Glu Pro Leu Arg Pro His Pro Gly Gln Gly
183          245                     250                     255
185 Arg Ser Ala Gln Asn Met Phe Ala Phe Leu Ala Asp Ser Pro Ile Val
186          260                     265                     270
188 Ala Ser His Arg Glu Gly Asp Gly Arg Val Gln Asp Ala Tyr Ser Leu
189          275                     280                     285
191 Arg Cys Ser Pro Gln Val Thr Gly Ala Ala Arg Asp Thr Ile Ala His
192          290                     295                     300
194 Ala Arg Leu Val Ala Thr Arg Glu Leu Ala Ala Ala Ile Asp Asn Pro
195          305                     310                     315                     320
197 Val Val Leu Pro Ser Gly Glu Val Thr Ser Asn Gly Asn Phe His Gly
198          325                     330                     335
200 Ala Pro Val Ala Tyr Val Leu Asp Phe Leu Ala Ile Ala Val Ala Asp
201          340                     345                     350
203 Leu Gly Ser Ile Ala Glu Arg Arg Thr Asp Arg Met Leu Asp Pro Ala
204          355                     360                     365
206 Arg Ser Arg Asp Leu Pro Ala Phe Leu Ala Asp Asp Pro Gly Val Asp
207          370                     375                     380
209 Ser Gly Met Met Ile Ala Gln Tyr Thr Gln Ala Gly Leu Val Ala Glu
210          385                     390                     395                     400
212 Asn Lys Arg Leu Ala
213          405
216 <210> SEQ ID NO: 5

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RAW SEQUENCE LISTING

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217 <211> LENGTH: 513
218 <212> TYPE: PRT
219 <213> ORGANISM: Artificial Sequence
221 <220> FEATURE:
222 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
223     polypeptide
225 <400> SEQUENCE: 5
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227   1           5           10           15
229 Asp Asp Val Ile Ala Val Ala Arg His Glu Ala Arg Ile Ser Ile Ser
230           20           25           30
232 Pro Gln Val Leu Glu Glu Leu Ala Ser Val Arg Ala His Ile Asp Ala
233           35           40           45
235 Leu Ala Ser Ala Asp Thr Pro Val Tyr Gly Ile Ser Thr Gly Phe Gly
236           50           55           60
238 Ala Leu Ala Thr Arg His Ile Ala Pro Glu Asp Arg Ala Lys Leu Gln
239   65           70           75           80
241 Arg Ser Leu Ile Arg Ser His Ala Ala Gly Met Gly Glu Pro Val Glu
242           85           90           95
244 Arg Glu Val Val Arg Ala Leu Met Phe Leu Arg Ala Lys Thr Leu Ala
245           100          105          110
247 Ser Gly Arg Thr Gly Val Arg Pro Val Val Leu Glu Thr Met Val Gly
248           115          120          125
250 Met Leu Asn Ala Gly Ile Thr Pro Val Val Arg Glu Tyr Gly Ser Leu
251   130          135          140
253 Gly Cys Ser Gly Asp Leu Ala Pro Leu Ser His Cys Ala Leu Val Leu
254  145          150          155          160
256 Met Gly Glu Gly Glu Ala Thr Asp Ala His Gly Asp Ile Arg Pro Val
257           165          170          175
259 Pro Glu Leu Phe Ala Glu Ala Gly Leu Thr Pro Val Glu Leu Ala Glu
260           180          185          190
262 Lys Glu Gly Leu Ala Leu Val Asn Gly Thr Asp Gly Met Leu Gly Gln
263           195          200          205
265 Leu Ile Met Ala Leu Ala Asp Leu Asp Glu Leu Leu Asp Ile Ala Asp
266   210          215          220
268 Ala Thr Ala Ala Met Ser Val Glu Ala Gln Leu Gly Thr Asp Gln Val
269  225          230          235          240
271 Phe Arg Ala Glu Leu His Glu Pro Leu Arg Pro His Pro Gly Gln Gly
272           245          250          255
274 Arg Ser Ala Gln Asn Met Phe Ala Phe Leu Ala Asp Ser Pro Ile Val
275           260          265          270
277 Ala Ser His Arg Glu Gly Asp Gly Arg Val Gln Asp Ala Tyr Ser Leu
278           275          280          285
280 Arg Cys Ser Pro Gln Val Thr Gly Ala Ala Arg Asp Thr Ile Ala His
281   290          295          300
283 Ala Arg Leu Val Ala Thr Arg Glu Leu Ala Ala Ala Ile Asp Asn Pro
284  305          310          315          320
286 Val Val Leu Pro Ser Gly Glu Val Thr Ser Asn Gly Asn Phe His Gly
287           325          330          335

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Input Set : A:\78728106.app

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```

289 Ala Pro Val Ala Tyr Val Leu Asp Phe Leu Ala Ile Ala Val Ala Asp
290           340           345           350
292 Leu Gly Ser Ile Ala Glu Arg Arg Thr Asp Arg Met Leu Asp Pro Ala
293           355           360           365
295 Arg Ser Arg Asp Leu Pro Ala Phe Leu Ala Asp Asp Pro Gly Val Asp
296           370           375           380
298 Ser Gly Met Met Ile Ala Gln Tyr Thr Gln Ala Gly Leu Val Ala Glu
299 385           390           395           400
301 Asn Lys Arg Leu Ala Val Pro Ala Ser Val Asp Ser Ile Pro Ser Ser
302           405           410           415
304 Ala Met Gln Glu Asp His Val Ser Leu Gly Trp His Ala Ala Arg Lys
305           420           425           430
307 Leu Arg Thr Ser Val Ala Asn Leu Arg Arg Ile Leu Ala Val Glu Met
308           435           440           445
310 Leu Ile Ala Gly Arg Ala Leu Asp Leu Arg Ala Pro Leu Lys Pro Gly
311           450           455           460
313 Pro Ala Thr Gly Ala Val Leu Glu Val Leu Arg Ser Lys Val Ala Gly
314 465           470           475           480
316 Pro Gly Gln Asp Arg Phe Leu Ser Ala Glu Leu Glu Ala Ala Tyr Asp
317           485           490           495
319 Leu Leu Ala Asn Gly Ser Val His Lys Ala Leu Glu Ala His Leu Pro
320           500           505           510

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322 Ala

325 <210> SEQ ID NO: 6

326 <211> LENGTH: 511

327 <212> TYPE: PRT

328 <213> ORGANISM: Artificial Sequence

330 <220> FEATURE:

331 <223> OTHER INFORMATION: Description of Artificial Sequence: Formula polypeptide

333 <220> FEATURE:

334 <221> NAME/KEY: MOD_RES

335 <222> LOCATION: (1)..(9)

336 <223> OTHER INFORMATION: Variable amino acid

338 <220> FEATURE:

339 <221> NAME/KEY: MOD_RES

340 <222> LOCATION: (11)

341 <223> OTHER INFORMATION: Variable amino acid

343 <220> FEATURE:

344 <221> NAME/KEY: MOD_RES

345 <222> LOCATION: (14)

346 <223> OTHER INFORMATION: Variable amino acid

348 <220> FEATURE:

349 <221> NAME/KEY: MOD_RES

350 <222> LOCATION: (17)


351 <223> OTHER INFORMATION: Variable amino acid

353 <220> FEATURE:

354 <221> NAME/KEY: MOD_RES

355 <222> LOCATION: (20)

356 <223> OTHER INFORMATION: Variable amino acid

 Use of n and/or Xaa has been detected in the Sequence Listing.
 Review the Sequence Listing to insure a corresponding
 explanation is presented in the <220> to <223> fields of
 each sequence using n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/833,745

DATE: 07/26/2001

TIME: 09:45:07

Input Set : A:\78728106.app

Output Set: N:\CRF3\07262001\I833745.raw

L:824 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:827 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:830 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:836 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:839 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:842 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:848 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:854 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:857 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:860 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:863 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:866 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:869 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:872 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:875 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:878 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:881 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:884 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:887 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:890 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:893 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:896 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:899 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:902 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:905 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:908 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:911 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:914 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:917 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:1694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1697 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1700 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1706 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1712 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1715 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1718 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1724 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1727 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1730 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1733 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1736 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1739 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:1742 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11

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